ANNOTATED DRAFT INSTREAM FLOW RULES

This document contains annotations to the draft Instream Flow Rules dated March 16, 1999. The annotations consist of comment boxes that record comments received on the draft between March 16, 1999 and September 1, 2000. Where appropriate, a summary DES response to comments has been placed in the comment box.

The purpose of this annotated version of the rules is to document the comments received on the March 16, 1999 draft for use as a resource by stakeholders in developing comments on the next draft (expected to be released for public comment in November, 2000)

The Department of Environmental Services wishes to thank all those who have been engaged in discussions on Instream Flow Rules to date, and we encourage your continued participation in developing the rules.

Sample Comment Box

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials		NHWWA #3w B
20-Jul-00	**cwi**				
Comment: **Response:**					

Adopt Part Env-C 720 to read as follows:

PART Env-C 720 PURPOSE AND APPLICABILITY OF INSTREAM FLOW RULES

Statutory Authority: RSA 483:9-c,I; RSA 483:11,IV

Env-C 720.01 Purpose. The purpose of Parts Env-C 720 through Env-C 724 is to implement procedures for instream flows on designated rivers to maintain water for instream public uses and to protect the resources for which the river or segment is designated, and to implement procedures for the commissioner to recommend required minimum releases at hydroelectric energy facilities licensed by the Federal Energy Regulatory Commission.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**720.01 Purpose – should apply to other than designated rivers**	PWW #7w A
24-Jul-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: This rule is intended to apply only to designated rivers. We believe that it is inappropriate to limit the application of such a rule to communities in the upper Merrimack and lower Merrimack while there are several communities in the mid-section that would be exempt from the rule. Concord and Nashua could be required to limit withdrawals from the river while golf courses, water suppliers and any other users in Hooksett and Manchester could continue withdrawals unabated. This is patently unfair and discriminatory. Withdrawals from the mid-section of the Merrimack could have a dramatic impact on the available flows downstream.

Response: DES recognizes that there are legitimate scientific and equity considerations of a rule that applies only to certain rivers or reaches. However, the Department's rulemaking authority for instream flow protection is limited under RSA 483:9-c to designated river.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**720.01 Purpose – should apply to other than designated rivers**	MRWC #13w A
16-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: We understand that the fact that in some rivers only segments of those rivers are designated and thus the geographic limitation of the rules to within 250 feet of the normal high water mark. But for designated rivers where the entire river (say for purpose of discussion, 80% of the river length or greater) is designated have you considered extending the rules to apply to users within the entire watershed? Scientifically this is very defensible position since all water in the watershed contributes to the flows. For rivers that nearly the entire length is designated there is essentially no ambiguity that all water in the watershed contributes to a designated part of the river. While this change may stretch some of the legal constraints of the RSA there is the very strong factor of fairness to consider. To have one use under restrictive order within 250 ft of the river and another outside the limit, even thought the entire river is designated and all uses within the watershed are contributing will be considered grossly unfair by most citizens. We are concerned that this unfairness (whether perceived or real) will be one of the major stumbling blocks to implementation of the rules. If legally possible this suggested change to watershed wide applicability where appropriate would eliminate this unfairness on some of the designated rivers.

Response: The fact that only certain segments of some rivers are designated was not a consideration in limiting the rule to withdrawals within 250 feet of a designated river. This distance was selected on the basis of the effect of proximal water withdrawals on stream flow and the travel time of ground and surface water flow. While it is true that all water in the watershed contributes to flow in the designated river, the travel time from the outlying parts of the watershed to the designated river will exceed the duration of reduction/cessation orders in most cases.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**720.01 Purpose – should apply to other than designated rivers**	CRJC #17w A
24-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: A stated purpose of the Rules (ENV-C 720.01), is to "implement procedures for instream flows on designated rivers to maintain water for instream public uses and to protect the resources for which the river or segment is designated". In order to protect the resources for which the river or segment is designated, we believe that all upstream watershed uses must be regulated. The proposed Rules, however, are not inclusive. We believe the burden of protecting the resource should be shared by all water users where ever they are in the watershed.

We commend the many people who have worked long and hard to formulate these proposed Rules, and reconcile the diverse interests inherent in the subject. It has not been an easy task. It is obvious, however, that a serious flaw exists in the fact that the Rules are not incumbent on water users of all rivers in the state. We believe it important that the Department of Environmental Services and the legislature give priority consideration to making a sensible statewide water allocation system applicable to all rivers, all tributaries, and all segments of rivers. Not to do so will promote inequities and confusion among water users.

Response: DES concurs that there are reasons of science and fairness for sharing the burden of instream flow protection among all users in a given watershed and will be discussing the merits of such an approach with the Legislature and the public in the SB330 Study Committee forum. In the interim, DES intends to continue to move forward with fulfillment of its existing legislative mandate under RSA 483:9-c to develop rules to protect instream flow on designated rivers.

Env-C 720.02 Applicability.

(a) The rules in Parts Env-C 720 through Env-C 724 shall apply to water users required to be registered with the department under RSA 482:3 if the water use is:

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**720.02 (a) only registered water users included**	**MPM #1w B**
19-Jul-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: Pursuant to the statement above, only those water users who withdraw >20,000 gallons per day would be regulated under Env-C 720. The Department should be regulating all water users even if they withdraw less than 20,000 gallons per day for the simple reason that the reduction/cessation trigger flows are not based upon withdrawal by the user, but by the stream flow. It is quite possible that a water user could be withdrawing an entire stream and still use <20,000 gallons per day. Small streams are left unprotected and should be included within the program.

Response: While it is true that the potential exists for a user of <20,000 GPD to withdraw a significant percentage of the flow from a very small stream, the 20,000 GPD threshold captures the overwhelming majority of direct withdrawals from stream systems in NH. DES's capacity to identify and regulate users below this threshold is limited and agency resources can be better invested in implementing other aspects of instream flow protection.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**720.02 (a) only registered water users included**	MRWC #13w B
16-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: As the small business segment of the NH economy continues to grow we hypothesize that the users in the less than 20K gallons per day range, if they not already are, they will become a very significant factor in the water use equation. Has it been considered to expand the rules to apply to all users that use 10,000 gallons per day or greater? Even thought the users in the 10-20K range are not registered, and realistically compliance will be voluntary, inclusion of the smaller water users in the rules will greatly increase the scope of awareness of the problem and the rules and will generate some participation and water savings. It also sets a framework for more formal inclusion should registration of these users become necessary in the future.

Response: There is nothing that prevents voluntary water conservation in an affected watershed, and in fact there are provisions in the rule intended to encourage such actions. Equitable treatment among users is predicated on DES's ability to enforce compliance by each affected user. Further, the apportionment formula relies on accurate information about water use derived from DES' registration and reporting program. Users in the 10-20K range would need to register in order to capture this information. DES does not intend to change the Water User Registration and Reporting Rules.

(1) A consumptive use of water of a designated river;

(2) A consumptive use of groundwater or surface water within 250 feet of the normal high water mark of a designated river; or

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**720.02 (a)(2) – 250' setback for wells is arbitrary**	**MPM #1w C**
19-Jul-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: The 250-foot designation is discussed within RSA 483 only when referring to setbacks from the normal high water mark for solid waste storage or treatment facilities and sludge, septage or solid waste spreading. The blanket inclusion of groundwater wells within 250 feet of the normal high water mark is an arbitrary requirement not supported by the statue or science and should be removed.

Response: The 250-foot distance is not arbitrary. It was selected on the basis of the effect of proximal water withdrawals on stream flow and the travel time of ground and surface water flow. This distance is being further refined on the basis of additional scientific information about travel time and capture rates discussed in the groundwater working group.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**720.02 (a)(2) – 250' setback for wells is arbitrary**	MMSW #15w B
24-Aug-00	**cwi**	**13-Sep-00**	**cwi**		

Comment: The provision of the draft Rule with which my client takes issue is draft Env-C 720.02(a)(2) which provides that the restrictions of the Instream Flow Rules shall apply to "[a] consumptive use of groundwater or surface water within *250* feet of the normal high-water mark of a designated river." The Rules then go to limit the water consumption of all affected users "so that the instantaneous total watershed-wide consumptive use by all affected users shall not be more than" a certain percent of the designated phase I or II flow. See Env-C 722.02(b), (c). There are two fundamental problems with these provisions of the Rules:

1. The draft Rules treat a groundwater withdrawal, which has only an indirect impact on river flow, the same as a direct withdrawal of water from the river itself and
2. The proposed Rules arbitrarily determine that groundwater withdrawals within 250 feet of a designated river are subject to restriction while those outside 250 feet are subject to no restriction whatsoever.

As discussed in greater detail below, a direct withdrawal of water from a designated river has a direct impact on the flow in that river and, as such, is an appropriate subject of regulation pursuant to the authority granted by RSA 483. On the other hand, while any withdrawal of groundwater or surface water within the watershed of a designated river has a potential impact on the flow of that river, the impact is certainly not as direct or immediate as a direct withdrawal from the river itself. Nor can the impact of any particular groundwater withdrawal be quantified on the basis of information currently available to the Department. Certainly no uniform conclusions can be made about the impact of all groundwater and surface water withdrawals within a given distance of a river on flow in the river itself. Accordingly, there is no technical justification for imposing on groundwater withdrawals the same limitations which are imposed on direct withdrawals from the river itself. [Click here for continued discussion.]

Response: Surface water and groundwater are intimately linked. Withdrawal of groundwater from the proximity of a surface water body can have immediate and large-scale impacts on river flow. Ignoring this would not protect the river flow. The distance from river is based on the travel time of ten days—the basic time interval of a single order period.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**720.02 (a)(2) – 250' setback for wells is not enough**	CRJC #17w C
24-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: Groundwater and surface water are part of an interconnected system. Large withdrawals from gravel wells will impact stream flows. Your inclusion of wells within *250'* of streams is a step in the right direction, but we suggest that you did not go far enough. The capture area should be increased significantly, and we suggest 500 or 1000'.

Response: DES recognizes the connection between surface and groundwater. This distance will be adjusted based on further scientific information about travel time and capture rates discussed in the groundwater working group.

(3) A hydroelectric energy facility on a designated river, except as provided in (b) and (c) below, unless the water is used to power a turbine that:

a. Is located in the dam structure itself such that there is no diversion of the water away from the natural stream bed; and

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**720.02 (a)(3)a – minimal instead of no diversion**	**MPM #1w D**

19-Jul-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: Just the fact that the water goes through a structure is a diversion. This statement should be revised to state "…such that there is minimal diversion…".

Response: DES concurs that this language needs further clarification and proposes to replace it with the following:
a. Is located in the dam structure itself and there is no other diversion of the water away from the natural stream bed; and

b. Is operated in a run-of-river mode such that there is no storage of water for release at a later time.

(b) These rules shall not apply to a hydroelectric energy facility on a designated river licensed by the Federal Energy Regulatory Commission for the term of the license in effect at the time these rules are adopted, but shall apply upon the expiration of the license.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**720.02 (a) 3 (b) – impact of hydropower exemption**	CRJC #17w G
24-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: In some cases the flows at dams subject to FERC license are lower than Q60, i.e. 0.2 csm. The rules exempt such facilities (ENV-C 720.02) until relicensing. We suggest that DES take into consideration the impact on withdrawals below those dams.

Response: DES recognizes that such situations exist and believe the rules address this. The rules provide a mechanism for considering such cases when the protected flows are established for a particular river. Further, the rules provide guidance about minimum required releases during relicensing and a mechanism to adjust protected instream flows on the basis of new FERC license requirements.

(c) These rules shall not apply to a hydroelectric energy facility on a designated river for which a flow requirement has been established as a term or condition of being granted an exemption from the Federal Energy Regulatory Commission licensing process prior to the adoption of these rules, for a period of 25 years from the date the exemption was initially granted or until the facility's existing power purchase contract expires, whichever is earlier.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**720.02 (c) – rules applied to hydropower**	CRWC #11w A
16-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: This section seems to be in conflict with Env-C720.01 (a) 3 which says that hydro facilities unless they are run of river or without diversion would in fact be covered by these rules. If the intent is to distinguish between using water for some purpose away from the river before returning it to the river versus running it through a turbine located in the river than the rules should make that more clear.

If this section is actually the controlling section of the rules are regards hydro facilities then CRWC does not feel that a wholesale exemption of hydropower facilities is appropriate in the definition section of these rules. Hydro facilities have different levels of impact on the waters of the state. A run of river facility has much less impact than does a peak power facility that pools water until electric demand increases and the facility begins generating. During the pooling periods flows are reduced significantly. Other facilities that siphon the water out of the river channel and run it through a tube or pipe to a generating facility further down river significantly reduce water flows in that stretch of river by-passed by the pipe. There may or may not be minimum flow requirements associated with these later two types of facilities. These two examples of reducing in-stream flows are clearly consumptive uses of the water either over a limited time period or over a limited reach of the river. During the low water flow periods addressed by these rules economic factors not environmental protection considerations may determine the flow in the river. The economic factors may not allow for the protection of in-stream life. This section seems to say that the rules do not apply to any hydro facility regardless of the type.

Response: This section does not provide a wholesale exemption for hydropower facilities. The rule first distinguishes between two major categories of water use: consumptive use and hydropower production. The rule then further distinguishes among three types of hydropower use: run-of-river with no diversion (exempted from the rule), and FERC-licensed and FERC-exempted projects that either have diversions or are not operated run-of-river. Section Env-C 720.02 (c) covers the latter. Projects covered by this section are not subject to rule for the period of time specified only if a flow requirement has already been established when FERC granted its license exemption for the project.

Env-C 720.03 Consumptive Use.

(a) Use of water shall be deemed to be a consumptive use if:

(1) The return water flow is less than that withdrawn;

(2) The water is returned to a location greater than 500 feet from the withdrawal location; or

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**720.03 (a)(2) Consumptive Use definition**	NHWWA #3w B
20-Jul-00	**cwi**	**09-Sep-00**	**cwi**		

Comment: This section which essentially defines consumptive use, is not appropriate in terms of its application to public water suppliers because return flows through wastewater treatment facilities far exceed the withdrawals being made by public water suppliers. According to USGS data in report 94-4252 the State of New Hampshire returns 52% more water through wastewater treatment facilities than that which is withdrawn by the public water suppliers. The quality of the return flows is regulated by NPDES discharge permits and those returns are included in the gauged river flows that are the basis for the trigger flows.
It is recommended that public water suppliers be exempt from Section (a)(2) that requires that the water be returned to a location greater than 500 feet from the withdrawal.

Response: The consumptive use definition must apply to all AWUs. Consumptive use applies to all water that is removed from a stream and is no longer available at that time or location for the river's designated uses. The rules are designed to discourage consumptive use. However, public water suppliers will have an extended period of time to phase in alternative supplies and other strategies to reduce their consumptive use and the impact of an order on their operations. Methods for crediting return flows against withdrawals are included below in Env-C 720.03 (b) and may be further refined to reduce the consumptive use measured for an individual AWU.

(3) The water is returned at a different time from the withdrawal.

(b) For a water use which returns some but not all of the withdrawn water, the consumptive use shall be the difference between the water withdrawn and the measured water returned that meets the requirements of (a) above.

(c) The use of water for hydroelectric energy production shall not be deemed a consumptive use.

PART Env-C 721 DEFINITIONS FOR INSTREAM FLOW RULES

Env-C 721.01 "Affected water users" means registered water users who are subject to these rules.

Env-C 721.02 "Commissioner" means the commissioner of the department of environmental services.

Env-C 721.03 "Daily withdrawal information" means the volume of water withdrawn on each day of a given season, as reported to the department.

Env-C 721.04 "Department" means the department of environmental services.

Env-C 721.05 "Designated river" means any river or river segment that is designated under RSA 483.

Env-C 721.06 "Governing body" means the board of selectmen in a town, the board of mayor and aldermen in a city or the council in a city or town with a council, or when used to refer to unincorporated towns or unorganized places, or both, the county commissioners.

Env-C 721.07 "LRMAC" means a local rivers management advisory committee established pursuant to RSA 483:8-a.

Env-C 721.08 "Public water supplier" means a supplier of water as defined in RSA 485:1-a, XVI.

Env-C 721.09 "Q60" means the average daily river flow which is equaled or exceeded 60 percent of the time.

Env-C 721.10 "Q80" means the average daily river flow which is equaled or exceeded 80 percent of the time.

Env-C 721.11 "Q90" means the average daily river flow which is equaled or exceeded 90 percent of the time.

Env-C 721.12 "Registered Water User" means any person or entity subject to Env-Wr 701 based on withdrawals.

Env-C 721.13 "RMAC" means the rivers management advisory committee established pursuant to RSA 483:8.

Env-C 721.14 "Watershed" means one of the 110 watersheds identified in the document NHDES-COM-MAP-1.

PART Env-C 722 PROTECTION OF INSTREAM FLOWS

Env-C 722.01 Maintenance of Instream Flows.

(a) Instream flows shall be maintained at hydroelectric energy facilities subject to these rules through a required minimum release, established pursuant to Env-C 723, that applies to the amount of water released instantaneously to the natural stream bed just below the dam.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.01 (a) – relief from 7Q10 under discharge permits**	MPM #1w E
19-Jul-00	**cwi**	**13-Sep-00**	**cwi**		

Comment: As the Surface Water Quality regulations under Env-Ws 430 are also being revised and water quantity is addressed there in Ws 430.04(d), is it possible that regulated entities downstream from hydroelectric facilities required to maintain a minimum release under C 722.01(a), will receive some relief from the stringent requirement of using the 7Q10 flow as the determining factor for calculating NPDES discharge conditions? If it is the Department's intent to link Env-Ws 430 and Env-C 720 in the future, the language under Env-Ws 430.04(d) should be consistent with the Instream Flow definition in the statute RSA 483:9-c as follows: "minimum stream flow level shall be maintained at levels adequate to maintain water for present and future instream public uses pursuant to RSA 483:9-c."

Response: NHDES New Surface Water Quality Regulations (now Env-Ws 1700) continue to use 7Q10 as the standard for waste assimilation. Despite management and regulation of river flows, there is still the potential for low flow events from natural causes that require continued reliance on this flow level as a standard.

(b) Consumptive use by affected water users shall be limited through the process described in Env-C 723 when flow at the downstream watershed boundary is at or below the trigger flows.

(c) The flow in a designated river that can be withdrawn by the total consumptive use of affected water users in any watershed shall be based on the following trigger flows, established pursuant to Env-C 723:

(1) A phase I flow;

(2) A phase II flow; and

(3) A phase III flow.

(d) For purposes of RSA 483:9-c, IV, which allows the instream flow to fall below the protected level due to natural causes or when public health and safety are affected, the commissioner has determined that a public water supply emergency exists which affects public health and safety in the following circumstances:

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.01(d) – consideration for businesses during emergencies**	MPM #1w F
19-Jul-00	**cwi**	**26-Sep-00**	**cwi**		
Comment: This section discusses "public water supply emergency" and provides relief from the statute/rule when water is necessary for drinking, fire protection and for repairs pursuant to public safety. We encourage the Department to consider the repercussions from an imposed cessation of water use to those businesses that will not be supplied water in the event of a "public water supply emergency". **Response:** The five-year, phase-in period will give all AWUs the opportunity to evaluate how the orders affect their ability to withdraw water, and time to plan and implement conservation measures and alternate water supply sources. Further, a 25-year planning period for public water supplies to develop water supply methods, which allow maintenance of protected instream flows, is expected to be included in the revised draft rules.					

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.01(d) –emergency determination**	NHRC #10w C
16-Aug-00	**cwi**	**26-Sep-00**	**cwi**		
Comment: 4.) The conditions for the emergency determination are good. **Response:**					

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.01 (d)-(f) - suggest section deletion**	MRWC #13w I
16-Aug-00	**cwi**	**26-Sep-00**	**cwi**		

Comment: Under Env-C 722.01 Maintenance of Instream Flows exceptions to the rules for (d) public health and safety, (e) drinking water, and (f) fire protection, could also be removed. If desired these changes could help reduce the complexity of the rules and close potential loopholes and openings for attempted special interest exemptions. The complex and divisive issues of determining the appropriate drinking water allotment per person and how to take into account seasonal and daily population movements could be eliminated. If the PUC gives approval to public water suppliers for stepped rate fees, they can be used in conjunction with water drought emergency fees to provide further incentives for conservation.

Response: The rules for PWS will be revised to eliminate a per capita limit. Rules will incorporate a longer period of implementation for PWS under the provision that a plan for alternative supplies and conservation is submitted and approved.

(1) When the withdrawal is necessary for drinking; or

(2) When the withdrawal is necessary to provide fire protection; or

(3) When flow is required to be reduced, diverted or dammed in order to perform repairs required to protect public safety pursuant to RSA 482.

(e) The commissioner shall allow the public water supplier(s) to withdraw up to 75 gallons of water per person per day multiplied by the population served to provide water for drinking when an emergency exists under (d)(1) above.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials		
20-Jul-00	**cwi**	**13-Sep-00**	**cwi**	**722.01 (e) PWS emergency allocation**	NHWWA #3w C

Comment: Paragraph (e) of this section allows public water suppliers to withdraw up to 75 gallons per day multiplied by the population served under paragraph (d)(1). As was pointed out at the 4/15/99 RMAC meeting, the per person per day consumption in Manchester and Concord is about 130 gallons. That 130 gallon figure includes domestic as well as business and industry consumption. A successful water conservation program maybe able to achieve water reductions of about 15%, and that includes all consumption domestic, business and industrial. This is an estimate based on the premise that water conservation will be a new practice for most people in N.H. and time will be required to change public attitude and reduce usage. The proposed 75 gallon per day number is a 42% reduction in average daily water use, that would necessitate the closing of business and industry.

John Forrestall, the Director of General Services for the City of Concord pointed out at the RMAC meeting the fact that Concord's workday week population nearly doubles, due to Concord's significant amount of office space and a 75 gallon per person per day limit could not only shutdown private businesses, but also state government. This alludes to the fact that each community subject to these rules will have unique varying impacts to their businesses and industries. The issue of business and industry not being able to operate during low flow situations raises serious questions about government public policy and those who will bear the economic sacrifice of that policy. The commissioner and political powers to be at the time of limitation or cessation orders will face considerable public scrutiny. This sort of extreme measure will jeopardize the credibility of the Instream Flow Rule. [Click here for continued discussion.] **It is therefore recommended that NHDES perform hydrologic analysis of rivers in at least six different communities to assess the overall impacts on public water supply before making any further recommendations on a gallons of water per person per day limitation in an emergency. A further suggestion would be to consider a concept of a 15% public water supply seasonal consumptive reduction based on the prior three years of reported consumption. The rationale for the 15% is that that number represents what is practically achievable in a successful water conservation program.**

Response: The rules for PWS will be revised to eliminate a per capita limit. Rules will incorporate a longer period of implementation for PWS under the provision that a plan for alternative supplies and conservation is submitted and approved.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.01 (e) PWS emergency allocation**	PWW #6w A
21-Jul-00	**cwi**	**26-Sep-00**	**cwi**		

Comment: In 1999, Pennichuck's total core system production was 4,993 MGD. This translates into per capita demand of about 152 gallons per day. This calculation obviously includes Pennichuck's commercial and industrial customer base which is quite significant. In fact, commercial and industrial consumption accounts for 40% of total metered consumption. Our peak month of production in 1999 was the month of June. We delivered 637 million gallons to our core system customers, approximately 1,002 gallons per capita per day. A limitation of 75 gallons per capita per day, as proposed in the current version of the proposed rule, is not attainable without eliminating base load demand. . . . . We support Manchester's recommendations regarding the option of using a percentage reduction of total withdrawal versus a per capita limitation. A 10% reduction is a far more realistic objective and is attainable.

Response: The rules for PWS will be revised to eliminate a per capita limit. Rules will incorporate a longer period of implementation for PWS under the provision that a plan for alternative supplies and conservation is submitted and approved.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.01 (e) PWS emergency allocation**	PWW #7w B

24-Jul-00	**cwi**	**26-Sep-00**	**cwi**		

Comment: The limitation of 75 gallons per person per day is not acceptable for our service area. During the winter season when there is no outdoor use of water, customer demand is about 11 million gallons per day (MGD). 75 gallons per day would limit our core system supply to approximately 6.75 MGD. The difference would require the elimination of commercial and industrial demand. Our commercial accounts include customers such as Southern NH Regional Medical Center and St. Joseph's Hospital that use 105,000 gallons per day. We have a host of customers that include nursing homes, schools and day care centers that would have to be considered in developing a realistic level of daily demand. It is our opinion that withdrawal limitations should be targeted at the normal non-peak period demand of the water utility. Limitations below the average, daily, wintertime demand will require the cessation of uses by commercial and industrial customers. It is not Pennichuck's role to shut down business and industry in the greater Nashua area. A comprehensive emergency plan involving the Governor's office and other key State agencies will be needed to implement such a drastic plan.

Response: The rules for PWS will be revised to eliminate a per capita limit. Rules will incorporate a longer period of implementation for PWS under the provision that a plan for alternative supplies and conservation is submitted and approved.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.01 (e) PWS emergency allocation**	CGSD #14w A
17-Aug-00	**cwi**	**26-Sep-00**	**cwi**		

Comment: The City of Concord wishes to concur with previous correspondence to you from both Manchester Water Works and Pennichuck Water Works, Inc. regarding the implementation of the Instream Flow Rule, especially as it pertains to an allowance for public water suppliers to withdraw up to 75 gpcd for the population served. Although the proposed allowance would likely be adequate and reasonable for residential domestic uses, typical municipal daily uses for communities with a mixed user base of residential, business, institutional and industrial customers is much higher.

In 1998 and 1999 the average daily use for the Concord municipal system was 136 and 133 gpcd respectively. This is derived by using total annual production and ninety percent of the estimated resident population of 38,000. The actual service population is estimated at 90%, as Concord still has many rural areas without municipal services.

I believe there should be an adjustment in the service population to reflect not only those not served by the system but also to reflect the additional water demand of those who work in the city, but live elsewhere. Concord has about 39,400 jobs. If you reduce the population number by a number to reflect those not in the local workforce, e.g., those commuting elsewhere to work, schoolchildren (6000), pre-schoolers (1500), retired persons, prison inmates (2000), etc., I believe it is possible to estimate about 60% of the workforce is filled by those who do not live in Concord. If true, the daytime workforce population of Concord is at least 20,000 persons higher than residential, or 58,000 people. Added to that are nonresident students at NH Technical Institute, Merrimack Valley schools, Bishop Brady, and other educational institutions.

When only residential service population is used to calculate the allowance, a person who commutes to Concord for work or school each day would use part of the Concord allowance during the day and then return home. Concord's citizens would actually be allocated less than 75 gpcd on average. It is under these conditions that Concord would need to reduce demand by restricting service to non-residential users.

Response: The rules for PWS will be revised to eliminate a per capita limit. Rules will incorporate a longer period of implementation for PWS under the provision that a plan for alternative supplies and conservation is submitted and approved.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.01 (e) PWS emergency allocation**	PBWP #16w A
24-Aug-00	**cwi**	**26-Sep-00**	**cwi**		

Comment: The current population connected to the water system is 2,900. Under the proposed Instream Flow Rules the Precinct would be limited to 217,500 gallons per day (GPD) at 75 gallons per day per capita (Env-C 722.01(e)). The Precinct's current demand is 450,000 GPD. The Precinct is concerned over the possible impact of this low allocation of water on its current users and the ability of the Precinct to meet this demand without significant impact.
The largest water consumer in the Precinct is the commercial account for the Merrimack County Nursing Facility. The facility has 277 residents and uses 34,000 GPD (120 gallons per day per capita). Of the five top water users in the Precinct two are nursing homes and the one is the county jail. It is not the Precinct's role to limit water usage or determine water usage at these facilities. Since the Precinct can not control water consumption to its residential consumers and its largest commercial consumer is a nursing home, the Precinct is in an untenable position. A reduction of 50% in water consumption is not realistic.

Response: The rules for PWS will be revised to eliminate a per capita limit. Rules will incorporate a longer period of implementation for PWS under the provision that a plan for alternative supplies and conservation is submitted and approved.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.01 (e) PWS emergency allocation**	CRJC #17w E
24-Aug-00	**cwi**	**26-Sep-00**	**cwi**		

Comment: Seventy-five/gallons/person/day seems high under drought conditions, and is very high for “drinking water”. (ENV-C 722.Ol (e)) Water systems are designed for 75 gal/day, but local water managers advise us that 60 gal/day more closely represents actual domestic usage. Under drought conditions, may we suggest 25 gal/day for total domestic use would be more appropriate.

Response: The rules for PWS will be revised to eliminate a per capita limit. Rules will incorporate a longer period of implementation for PWS under the provision that a plan for alternative supplies and conservation is submitted and approved.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.01 (e) PWS emergency allocation**	MWW #18w A
24-Aug-00	**cwi**	**26-Sep-00**	**cwi**		

Comment: Section Env-C 722.01, paragraph F, of the draft Instream Flow Rule allows public water suppliers to withdraw 75 gallons of water per person per day multiplied by the population served. As I have indicated at RMAC meetings, the 75 gallons per day per capita is reasonable in terms of internal domestic use. The major concern with the 75 gallon per day per capita criteria, is that it will require that business and industry in a community under the jurisdiction of the Rule to shut down in low flow situations. . . . I think it is very important for NHDES to evaluate the consumptive, hydrological and economic impact data as it applies to Concord and Pennichuck before settling on a criteria of 75 gallons per day per capita times the population served. . . . In the past, I have indicated that an option to the per capita reduction for public water suppliers would be a percentage reduction of total withdrawal. For instance, a successful water conservation program should after several years of implementation, establish say a 10% reduction in water consumption. Even attaining a level of 10% reduction is going to take a period of years, based on developing and implementing public education programs, instituting water conservation rate structures, and using the many other tools to reduce consumption. Realistically it will take years for the public to respond, and hopefully, at some point consumer participation would be widespread and greater than 10% reductions would be possible. In the case of MWW, a 10% reduction would represent a decrease in water consumption by 1.72 million gallons per day, or on a per capita basis, a reduction from 136 gallons to 122 gallons per day. The obvious problem is that even at 122 gallons per capita per day, this nowhere near approaches the 75 gallons per day per capita in the draft Rule. Again, the only way to achieve those kinds of water reductions is to shut down business and industry. In my view, it is unreasonable to consider the 75 gallon per day per capita criteria and we should strive to find a criteria that is attainable without broad negative economic impacts.
See also – General – Phase-in period issues – MWW #3w G.

Response: The rules for PWS will be revised to eliminate a per capita limit. Rules will incorporate a longer period of implementation for PWS under the provision that a plan for alternative supplies and conservation is submitted and approved.

(f) The commissioner shall allow the person(s) responsible for providing fire protection to withdraw as much water as is necessary to provide fire protection when an emergency exists under (d)(2) above.

(g) The commissioner shall allow the person(s) responsible for maintaining the dam under RSA 482 to reduce, divert or dam as much water as is necessary to allow the repairs to be performed when an emergency exists under (d)(3) above.

Env-C 722.02 Water Use Limitation/Cessation Orders.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.02, (d), (e) impacts of cessation notice**	PWW #7w C
24-Jul-00	**cwi**	**13-Sep-00**	**cwi**		

Comment: Cessation of withdrawals could lead to a shutdown of commercial and industrial use in the Pennichuck system per [earlier comment PWW #7w B re 722.01 (e)]. It is not Pennichuck's role to shut down business and industry in the greater Nashua area. A comprehensive emergency plan involving the Governor's office and other key State agencies will be needed to implement such a drastic plan.

Response: The rules will include a phase-in period. The phase-in period will give the AWUs the opportunity to evaluate how the orders affect their ability to withdraw water, and time to plan and implement conservation measures and alternate water supply sources. Further, a 25-year planning period for public water supplies to develop water supply methods, which allow maintenance of protected instream flows, is expected to be included in the revised draft rules.

(a) Determinations of the need to limit or cease consumptive water use shall be made separately for each watershed through which the designated river flows.

(b) Subject to Env-C 722.03, when daily average flow at the downstream watershed boundary has been less than or equal to the phase I level for 7 consecutive days, the commissioner shall issue an order to all affected water users in that watershed requiring them to limit consumption so that the instantaneous total watershed-wide consumptive use by all affected water users shall be not more than 4 percent of the phase I flow.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.02 (b) period of delay prior to trigger event**	NHRC #9w C
14-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: . . . we have concerns about the seven day delay before implementation of the trigger and protected flows. While some delay may be appropriate, prolonged low flows are likely to adversely impact riverine ecology. At least one hydrologist has recommended shorter delays than those proposed in the rules. Again, in the face of uncertainty, we believe the rules should address this delay conservatively. DES should also provide a clearer framework for the circumstances under which conservation or reduction requirements are lifted. The rationale for delaying onset of restrictions is to ensure that they occur only in response to sustained low flows. Similarly, restrictions should only be terminated when it is clear that the increased flows will be sustained.

Response: DES has reviewed stream flow statistics for a number of USGS gages and determined that a shorter waiting period is more responsive both to protecting aquatic resources entering an event, and to meeting water user needs exiting an event. Accordingly, the seven-day waiting period will be changed to four days.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.02 (b) period of delay prior to trigger event**	CRJC #17w J
24-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: We are concerned that the seven day delay in implementing the triggers seems overly long. We can support a two or three day delay to avoid false triggering, but believe that seven days allows for too much stress instream. In addition, a system of early notification to the press and users of impending triggering will educate all concerned to the necessity of water conservation.

Response: DES has reviewed stream flow statistics for a number of USGS gages and determined that a shorter waiting period is more responsive both to protecting aquatic resources entering an event, to meeting and water user needs exiting an event. Accordingly, the seven-day waiting period will be changed to four days.

(c) Subject to Env-C 722.03, when daily average flow at the downstream watershed boundary has been less than or equal to the phase II level for 7 consecutive days, the commissioner shall issue an order to all affected water users in that watershed requiring them to limit consumption so that the instantaneous total watershed-wide consumptive use by all affected water users shall be not more than 2 percent of the phase II flow.

(d) Subject to Env-C 722.01(d) through (g), Env-C 722.03, and (g) below, when daily average flows have been less than or equal to the phase III level for 7 consecutive days, the commissioner shall issue an order to all affected water users in that watershed requiring them to cease all consumptive uses.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.02 (b)-(d) – flow allotments are unrealistic**	MRWC #13w C
16-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: Based on our discussions with some of the water users, as the rules are currently structured, there are two aspects of the rules that will likely be perceived by many as unrealistic and cause them to become opponents of the rules. The total flow allotments for all users of 4%**,** (phase 1), 2% (phase 2) and 0% (phase 3) are very small percentages relative to what is allocated to remain in the river. We foresee testimony such as "How can you shut down my plant and leave 98% of the water in the river". We sense that the immediate responses of user's upon shutdown order will be litigation rather than cooperation. Defeating much of the long-term purpose of the rules.

Response: While it is true that on some rivers during certain seasons at some flows users will be required to reduce or curtail use, DES has determined that these percentages are needed to adequately protect aquatic and other instream resources. Other standard-setting approaches to instream flow protection make no allowance for water withdrawal (even small percentages) once protected levels are reached.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.02 (b)-(d) – flow allotments are unrealistic**	NHDA #19w D
25-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: The limitation of water use to four percent, two percent and zero is extremely restrictive. As a reference, the USGS measurements of stream flow have a maximum accuracy of five percent and often worse in winter. The ability to predict adverse impacts to an aquatic habitat or species at the five percent level is highly questionable. How is it then reasonable to have regulatory thresholds of two percent and zero water use?

Response: The trigger flows are based on long-term stream flow records that tend to correct for much of the inaccuracy in stream measurement. DES has evaluated these triggers flows using regional IFIM studies and determined that, given the allowable percentages of withdrawal, the thresholds have been set appropriately to adequately protect aquatic life and habitat without unduly impacting water users.

(e) The commissioner shall issue an order to cease withdrawals whenever the new hampshire fish and game department certifies that, while flows in a designated river have not been less than the phase III level for 7 consecutive days, the flows are such that significant adverse impacts will occur to aquatic life or habitat unless withdrawals are ceased.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.02 (e) – F&G certified cease orders**	MPM #1w G

19-Jul-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: This is an arbitrary requirement which flies in the face of the "science" behind the trigger flows and should be removed. Why have the trigger flows if one person can override the rule, regardless of what it says?

Response: This provision was included to address extremely rare events that occur during the seven-day waiting period when streamflow drops so rapidly that significant adverse impacts will occur to aquatic life unless withdrawals are ceased. With the change to a four-day waiting period such situations are not expected to occur. Accordingly, DES proposes to delete this section.

(f) The availability of water for consumptive use by each affected water user pursuant to (b) or (c) above shall be determined in accordance with Env-C 722.06.

(g) For every period in which an order is in effect, affected water users shall submit daily water use records for the entire period of the order, within 15 days of the date the order ceases.

Env-C 722.03 Exceptions to Issuance of Orders.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.03 – rule organization**	MPM #1w H
19-Jul-00	**cwi**	**13-Sep-00**	**cwi**		

Comment: This list of "exceptions to issuance of orders" should be presented as exclusions from the rule under Env-C 720.02, Applicability.

Response: The rules will be extensively revised and this suggestion will be considered. DES is considering deletion of this provision.

(a) If the total instantaneous watershed-wide consumptive use attributed to all affected water users on the designated river in the impacted watershed is less than 2 percent of the applicable trigger flow, Env-C 722.02 (b) and (c) shall not apply.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.03 (a) – cumulative effects of smaller withdrawals**	CRWC #11w B
16-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: This section defines a diminimus withdrawal but does not take into account the cumulative affect of several such withdrawals to the over all health of the river. If each 2% withdrawal is evaluated in isolation from others in the same watershed the overall effect is likely to be larger and risk the environmental health of the in-stream life.

Response: The rule is already written and intended to address the cumulative use of all affected users in a given watershed, not individual use. DES is considering deletion of this provision.

(b) Affected water users that are hydroelectric energy facilities shall maintain the required minimum release at all times unless inflow is less than the required minimum release and shall not be subject to the advisories and orders issued pursuant to Env-C 722.02.

(c) When inflow is less than the required minimum release, affected water users that are hydroelectric energy facilities shall maintain outflow equal to inflow.

Env-C 722.04 Duration of Orders.

(a) Subject to (b) and (c) below, the orders issued by the commissioner to implement the phased reductions described above shall remain in effect for 10 consecutive days.

(b) If, based on available hydrologic data, the commissioner determines that flows are likely to remain below the trigger flow for longer than 10 days, the commissioner shall extend the order for an additional 10 days by notifying affected water users as in Env-C 722.05.

(c) If, based on available hydrologic data, the commissioner determines that flows will rise above and exceed the trigger flow for an extended period of time, the commissioner shall remove the order prior to the end of the 10-day period.

Env-C 722.05 Notification for Orders and Need for Water Conservation.

(a) The commissioner shall notify all affected water users in the affected watershed(s) of a limitation/cessation order within 1 day of issuance, by telephone, electronic mail, or fax.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.05 (a) – notification period impractical**	MPM #1w I
19-Jul-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: This minimal notification is impractical and will be impossible to administer, particularly for public water suppliers and stand alone industries intending to provide notice to their business and industrial customers of an interruption in service or product. In the age of electronics it is still possible for a facility contact to be "out of touch" with the office for a day or two. Therefore, a single day's notice is inappropriate. In addition, Monadnock's paper products have a cycle time of 48 hours to 14 days based on when the customer places the order and the type of product to be manufactured. In the best case, an order received on day 1 of a cessation order would not be released to the customer until day 12 (or day 22 in the case of a 10-day extension of the cessation order by the Commissioner). This interruption to our business and delay to the customer is unacceptable.

Response: In today's electronic age, one-day notification is feasible. There are a variety of means to reach facility contacts including pagers, cell phones, etc. Responsiveness is the key to protecting aquatic resources going into an event and meeting water user needs coming out of an event. It will be incumbent on those users with special needs to address communication issues, anticipate events by tracking stream flows themselves or identify alternative means to meet demand. DES expects that the details of reasonable administration of this process will be worked out during the proposed 5-year phase in period.

(b) Whenever the commissioner issues an order to affected water users pursuant to Env-C 722.02, he shall also issue:

(1) A press release in a paper that serves each watershed affected by the order notifying the general public about the need for water conservation; and

(2) Notification by mail, fax, or electronic mail to all other registered water users in the watershed affected by the order requesting implementation of voluntary water conservation measures; and

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.05 (b) 2 – Conservation**	CGSD #14w B
17-Aug-00	**cwi**	**13-Sep-00**	**cwi**		

Comment: With conservation measures in place I believe 8 to 10% reductions in total usage could be realized. During the drought of 1980, Concord worked with the Sociology Department of UNH to educate and survey citizens on the effectiveness of measures taken. Our experience would indicate the best success will be about an 8% reduction in usage. I believe conservation education, the implementation of easily enforced water restrictions, and the imposition of conservation water usage rates are the most effective means to accomplish the goals desired.

Response: These methods will be part of the program to encourage conservation.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.05 (b) 2 – Conservation**	CRJC #17w D
24-Aug-00	**cwi**	**13-Sep-00**	**cwi**		

Comment: Based on data from USGS Water Resources Report 97-4177, *Estimated Water Withdrawals and Use in New Hampshire, 1995*, 58% of the people in the New Hampshire Connecticut River Watershed get their domestic water from public water supplies. The 42% of domestic water users that are self-suppliers may have gravel or hard rock wells but they do impact and are impacted by the water table over the long term. How do you propose to encourage them and all of the public to conserve? CRJC suggests that DES develop a proposal to address this question.

Response: NHDES will be developing a program in cooperation with the Public Water Suppliers for education and outreach on the importance of conservation and on methods. This program will not be limited to customers of public water supplies.

(3) Notification by mail, fax, or electronic mail to all those individuals and entities listed under Env-C 723.05 (c).

Env-C 722.06 Availability of Water.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.06 Analysis of consumptive formula recommended**	NHWWA #3w D
20-Jul-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: The concern with this section and the formula is to develop some data on multiple users in a river basin. It is recommended that DES conducts natural hydrologic analysis of multiple users on the watershed to see what the actual impact would be to each affected water user prior to proposing the final formula.

Response: Impact will be evaluated as part of the FIS. The phase-in period will give the AWUs the opportunity to evaluate how the orders affect their ability to withdraw water, and time to plan and implement conservation measures and alternate water supply sources. Further, a 25-year planning period for public water supplies to develop water supply methods, which allow maintenance of protected instream flows, is expected to be included in the revised draft rules.

(a) In order to determine the flow available to each affected water user, the department shall first determine for each season identified in Env-C 723.02:

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.06 (a) Reduce seasons to two**	NHDA #19w B
25-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: The current plan calls for three different flows to be determined for four different seasons for each watershed. This means that there will be 12 different flow numbers to keep track of for each water user. Explaining the actual practical differences in all these numbers will be a challenge, at best. The seasonal step down approach makes perfect academic sense but is impractical from a regulatory perspective.

There is the great potential of these 12 thresholds being overly complicated to the water users and time consuming to implement by DES. A simplification of this concept to four numbers, two winter and two summer, should be considered. We do not have water shortages in the spring. The summer flow levels could be extended until the fall rains come.

Response: Due to the seasonal approach in the rules, only three trigger flows will be of importance at any one time. The seasonal approach is intended to mimic the natural flow regime as closely as possible without becoming excessively burdensome. DES believes the rule strikes this balance. The summer season already extends to November 1st. Finally, it is anticipated that for most watersheds, reduction orders will be rarely if ever issued due to the exception under Env-C 722.03 (a).

(1) The total consumptive use in the watershed by all affected water users under normal or non-conservation conditions (T_n) as determined pursuant to Env-C 722.07;

(2) For each affected water user, the consumptive use by the user under normal or non-conservation conditions (W_{nx}, where x denotes separate users) as determined pursuant to Env-C 722.07; and

(3) The proportion of the total consumptive use by affected water users in the watershed attributable to each affected water user (P_{nx}), calculated by dividing W_{nx} by T_n, as shown below:

$$P_{nx} = W_{nx}/T_n.$$

(b) The flow available for each affected water user shall be the proportion of the total seasonal consumptive use in the watershed attributable to the affected water user (P_{nx}) times the flow available for

consumptive use. Thus, for phase I reductions each affected water user (x) may withdraw up to (P_{nx}) times (0.04) times (phase I flow), and for phase II reductions each affected water user may withdraw up to (P_{nx}) times (0.02) times (phase II flow).

(c) The flow available for each affected water user shall be calculated by the department every two years, beginning 180 days from the effective date of these rules, or whenever there is a change in affected water users registered under Env-Wr 701.

Env-C 722.07 Determination of Non-Conservation Consumptive Use.

(a) The consumptive use by all affected water users in a given watershed under normal or non-conservation conditions shall be the sum of the consumptive use determined pursuant to (b) and (c) below for the affected water users in that watershed.

(b) The consumptive use under normal or non-conservation conditions for an affected water user who has reported water withdrawals for at least one year prior to the effective date of these rules shall be determined as follows:

(1) Subject to (2) through (4) below, the consumptive use for a given season shall be the annual average of that season's total withdrawals as reported to the department for the period of record for that user, divided by the number of days in that season.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.07 (b) (1) – redefine consumptive use**	PWW #7w D
24-Jul-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: We recommend that the language be amended to: "Subject to (2) through (4) below, the consumptive use for a given season shall be the annual average of that season's total withdrawals as reported to the department for the period of record for that user, divided by the number of days of use during that season." The average daily use should be based on the days actually used and not include zero periods during the season when the source is not used. For example, Pennichuck has numbers of days during the season when the Merrimack River pumping station is not used or shut down for repairs. We also experience periods of reduced use, or no use, due to the lowering of the impoundment by Boot Hydro to conduct dam repairs at the Pawtucket Dam in Lowell, Mass. These reduced or no flow days should not be included in the denominator of the equation used to calculate Pennichuck's average daily withdrawal.

Response: This is covered in Env-C 722.07(b)(2). Further, that section is written in such a way as to create an incentive for water users to provide DES with daily withdrawal information.

(2) For users that provide complete daily withdrawal information to the department, the amount of consumptive use for a given season shall be the annual average of that season's total withdrawals, as reported to the department for the period of record for that user, divided by the number of days of actual use.

(3) If for any month during the period of record the user did not report the amount of water withdrawn, the lowest reported amount for that month in the period of record shall be used for the month for which actual data is not available.

(4) The period of record for consumptive use calculation shall be the entire period of record or five years, whichever is less.

(c) The amount of consumptive use under normal or non-conservation conditions for an affected water user who has reported water withdrawals for one year or less shall be estimated by the department based on the following:

(1) Any reported data for that season, together with consideration of whether consumptive use was reduced or ceased during the reporting period, for example in response to an order issued pursuant to Env-C 722.02;

(2) The user's estimate of its average withdrawal for that season;

(3) The number of days of actual withdrawal for that season or the number of days in a season not covered by reported daily withdrawal information;

(4) The user's type of use and other operational information, including whether the use is weather-dependent;

(5) Amounts withdrawn by other users who use water for the same purposes; and

(6) Any other information that is relevant to making the determination.

Env-C 722.08 Exemption from Limitation Orders Based on Water Conservation.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.08 - suggest section deletion**	MRWC #13w G
16-Aug-00	**cwi**	**13-Sep-00**	**cwi**		

Comment: If desired these changes could help reduce the complexity of the rules and close potential loopholes and openings for attempted special interest exemptions. The complex and divisive issues of determining the appropriate drinking water allotment per person and how to take into account seasonal and daily population movements could be eliminated. If the PUC gives approval to public water suppliers for stepped rate fees, they can be used in conjunction with water drought emergency fees to provide further incentives for conservation.

Response: The rules are being revised to eliminate per capita allocation of water. Exemptions for conservation plans are a positive incentive, which allow the desired effect of the rules to be accomplished without the level of oversight required. NHDES is working with PWS and PUC in the context of SB 331about revision of rate structures to improve conservation efforts.

(a) Any affected water user, other than a public water supplier, may request an exemption from water use limitation orders in accordance with this section.

(b) To request the exemption, the water user shall submit the following information to the department:

(1) The name, address and telephone number of the water user, and if the water user is not an individual, the name and telephone number of an individual who can be contacted relative to the request;

(2) The location of the facility that is subject to reduction orders;

(3) A complete description of all water use at the facility;

(4) A complete description of the conservation program that the water user has implemented for the facility, including the date the program was implemented and the level of conservation achieved as a result of the program; and

(5) A complete description of how the water use at the facility is minimized through design and/or operation features.

(6) A water use management plan which addresses phased reduction in water use corresponding to the trigger flows identified in Env-C 722.01(c) as determined pursuant to Env-C 723.

(c) The department shall exempt the facility from the requirements to limit water use under Env-C 722.02(b) and/or (c) based on implementation of a water conservation program if the department determines that:

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.08 (c) – credit for early reductions in consumption**	**MPM #1w J**
19-Jul-00	**cwi**	**13-Sep-00**	**cwi**		

Comment: This section on "Exemption from Limitation Orders Based on Water Conservation" offers little cessation protection for companies that have already "done the right thing" with regard to optimizing their water use. As was stated by DES staff during the last BIA meeting on April 21st , there is a possibility, however remote, that EPA will attempt to write and administer Instream Flow rules if DES cannot. However, there is little guarantee that early action by water supply companies and private industry within the State to reduce water consumption will be recognized by the EPA within the context of these rules. The State's business community and NHDES through the Air Resources Division have recognized this in a similar situation relative to early reductions of greenhouse gases. It is only fitting that the Water Division recognize the wisdom of ensuring that early water use reduction be appropriately credited by establishing a water use baseline and eventually a voluntary water use reduction registry.

Response: NHDES recommends that AWUs record upgrades and changes that reduce their water use. Credit for early conservation efforts is not now part of the rules. This issue will be considered in later rule drafts.

(1) The conservation program addresses all water use at the facility, either by identifying how the use has been limited or eliminated or by explaining why it is not practical to reduce or eliminate the use; and

(2) The conservation program limits the consumptive use of water from the designated river by at least as much as the limits required under Env-C 722.02 (b) and/or (c), as calculated pursuant to Env-C 722.06; and

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.08 (c)(2)and 722.9 (c) – exemption provision is meaningless**	PWW #7w E
24-Jul-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: Reduction of usage to a level that would equal or exceed total cessation of withdrawals is not realistic. While these paragraphs appear to provide the opportunity to use a conservation program to obtain an exemption, conservation programs are not likely to achieve reductions that would be "at least as much as the reductions that would be required under Env-C 722.02 (c) and/or (d)" and therefore this exemption provision is meaningless.

Response: There is a need to provide some standard for users seeking an exemption to achieve in order to be granted one. The benchmark required of other users is reasonable to assure protection of aquatic resources and equity for other water users. The benefit of receiving the exemption is that it gives the user greater flexibility in use during Phase I and Phase II events. This section of the rules is being substantially revised by a working group.

(3) The measures are permanent in nature and are not related to reduced production or services provided by the facility.

(d) The exemption shall remain in effect for five years, subject to Env-C 722.10.

Env-C 722.09 Exemption from Limitation Orders for Public Water Suppliers.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.09 – Phase-in of use reductions**	NHRC #10w B
16-Aug-00	**cwi**	**13-Sep-00**	**cwi**		

Comment: 3.) Any proposal for PWS should include provisions that take effect as soon as the rule takes effect. For example, there should be some requirement for use reduction from the outset, perhaps in the form of phased-in reductions in per-capita withdrawals (5% by year 2, 10% by year 4, 15% by year 6, etc.). These numbers are just examples and specific numbers or a specific approach would need to be determined with a bit more thought.

Response: Phase-in of the rules currently envisions gradual steps towards full implementation. Further, a 25-year planning period for public water supplies to develop water supply methods, which allow maintenance of protected instream flows, is expected to be included in the revised draft rules.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.09 - suggest section deletion**	MRWC #13w H
16-Aug-00	**cwi**	**13-Sep-00**	**cwi**		

Comment: If desired these changes could help reduce the complexity of the rules and close potential loopholes and openings for attempted special interest exemptions. The complex and divisive issues of determining the appropriate drinking water allotment per person and how to take into account seasonal and daily population movements could be eliminated. If the PUC gives approval to public water suppliers for stepped rate fees, they can be used in conjunction with water drought emergency fees to provide further incentives for conservation.

Response: The rules are being revised to eliminate per capita allocation of water. Exemptions for PWS are necessary to allow water for basic human needs and fire flow during the development period for alternative supplies. All AWUs will have a phase-in period before the rules go fully into effect. Further, a 25-year planning period for public water supplies to develop water supply methods, which allow maintenance of protected instream flows, is expected to be included in the revised draft rules.

(a) A public water supplier may request an exemption from water use limitation orders in accordance with this section.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.09 (a) – exemption implementation for PWSs**	NHRC #10w D
16-Aug-00	**cwi**	**13-Sep-00**	**cwi**		

Comment: 5.) Finally, it is unclear to me how the trigger flow levels would apply to PWS. The proposal states that PWS would need to make an "event specific application for an emergency determination" to make a withdrawal during a restriction/cessation order. This wording implies that PWS will still be subject to the trigger flows as listed in the rule unless applying for an emergency waiver. Is this what is intended? Would they be subject to all the trigger flows? If so, does this mean that PWS must apply for exemptions at each trigger level if they want to exceed the otherwise allowed withdrawal levels?

While I think this is the proper place for burden of proof, I wonder how this will help a PWS maintain system pressure. If flows drop quickly, will they have sufficient time to apply for and be granted such a waiver? What happens if delays in the process that are not the fault of the PWS (e.g. rapidly dropping flows and a long weekend might mean that a waiver can't be granted in time, particularly if river advocates are involved) result in flows dropping to protected levels before a waiver is granted? Will PWSs be allowed access to maintain system pressure anyway or will continued withdrawals be treated as violations?

Response: Rule sections applying to PWS will be extensively revised. Exemptions apply to all trigger flows during all seasons. Methods will be put into the rules whereby NHDES approves emergency withdrawals in a timely fashion.

(b) To request the exemption, the public water supplier shall submit the following information to the department:

(1) The name, address and telephone number of the public water supplier, and the name and telephone number of an individual representing the public water supplier who can be contacted relative to the request;

(2) The location of the public water supply that is subject to reduction orders;

(3) A water conservation plan, as specified in (c) below, that will be implemented by the public water supplier;

(4) A schedule for implementation of the water conservation plan; and

(5) Information pertaining to the approval, if necessary, of the provisions of the plan by the New Hampshire public utilities commission or the local governing body of the public water supplier, as applicable.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**Env-C 722.09 (c),(d),and (e)1 should be deleted**	NHWWA #3w E
20-Jul-00	**cwi**	**26-Sep-00**	**cwi**		

Comment: The NHWWA supports the water conservation measures that are included under the provisions of the proposed rule with some modifications. **It is recommended that, based on the previous explanation of the lack of control over public consumption that the language in paragraph (c), (d) and (e)(1) that alludes to reducing water use by at least as much as the reductions that would be required under the paragraphs in the rule describing trigger flows be eliminated. At this point there is no way of predicting how New Hampshire citizens will react to water conservation. Tying water conservation to trigger flows is unrealistic and likely impossible to achieve.**

Response: Conservation will be implemented on both continuing, long-term and event-specific levels. The Department feels that conservation programs are an important and necessary part of the rules.

(c) The plan shall identify the measures that will be implemented or required by the public water supplier to reduce water use by at least as much as the reductions that would be required under Env-C 722.02(c) and/or (d), respectively, including:

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**722.9 (c) – use reduction plans are reasonable**	CRWC #11w C
16-Aug-00	**cwi**	**13-Sep-00**	**cwi**		

Comment: These are appropriate measures to require of a municipal system that seeks an exemption request. In passing CRWC would note that these are reasonable requirements for any municipal consumptive use of the waters of the state with or without there being a water emergency.

Response: NHDES concurs.

(1) Customer metering;

(2) Leak detection and repairs;

(3) Requiring low-flow plumbing fixtures and/or flow restricting devices;

(4) Restricting non-essential uses such as watering lawns, washing cars, and filling swimming pools;

(5) Encouraging industrial reuse and recycling;

(6) Adopting a water conservation rate structure which can include surcharge penalties;

(7) Conducting or requiring residential, commercial, and industrial water audits;

(8) Public education;

(9) Any other measure determined by the public water supplier to be cost-effective.

(d) The plan may incorporate phased reduction flow management trigger flows to initiate the various components of the plan. Such trigger flows shall correspond to the trigger flows identified in Env-C 722.01(c) as determined pursuant to Env-C 723.

(e) The department shall exempt the facility from the requirements to limit water use under Env-C 722.02(b) and/or (c) based on implementation of a water conservation program if the department determines that:

(1) The water conservation plan meets the requirements of (b) through (d) above;

(2) The conservation program limits the amount of water withdrawn from the designated river by at least as much as the limits required under Env-C 722.02 (c) and/or (d), respectively, as calculated pursuant to Env-C 722.06; and

(3) The measures are permanent in nature.

(f) The exemption shall remain in effect for five years, subject to Env-C 722.10.

(g) At 4 years from the date the first trigger flow is established for a designated river, the department shall review the information reported under Env-C 722.10(f)(1) by all users exempted under Env-C 722.09 regarding the efforts made to implement water conservation plans and the effectiveness of the plans, and shall consider the need to amend Env-C 722.09 to lessen the water use reductions necessary to retain an exemption under Env-C 722.09. Reduction levels may be lessened only if the department determines that:

(1) Such lessening will not adversely affect the resources for which the river or segment was designated;

(2) The public water suppliers exempted under Env-C 722.10 have made good faith substantial efforts to achieve the necessary water use reductions; and

(3) Achievement of the necessary water use reductions is not reasonably feasible as a result of circumstances beyond the control of the public water suppliers.

(h) If the department so determines that the water use reductions necessary to retain the Env-C 722.09 exemption need to be lessened, the department shall initiate rulemaking within one year of beginning

the review. Nothing herein shall prevent the department from otherwise initiating rulemaking to amend all or any portion of Env-C 720.

Env-C 722.10 Renewal of Exemptions.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**Env-C 722.10 (a) and (b)2 should be deleted**	NHWWA #3w F
20-Jul-00	**cwi**	**26-Sep-00**	**pmc**		
Comment: The concerns with this section are similar to those stated above [NHWWA #3wE] **It is recommended that language in paragraph (a) and paragraph (b)(2) public water suppliers be excluded from the criteria to reduce water use by as much as the reductions that would have to be required elsewhere in the rule.** **Response: This section of the rules will be extensively revised by a working group.**					

(a) Affected water users receiving an exemption under Env-C 722.08 or Env-C 722.09 shall report water use to the department as required by Env-Wr 701, and shall report annually to the department on the effectiveness of implementation of the water conservation plan in reducing water use by at least as much as the reductions that would have been required under Env-C 722.02(c) and/or (d), respectively. Failure to meet either or both of these reporting requirements shall nullify the exemption, resulting in the affected user being subject to orders issued under Env-C 722.02 (b) and/or (c).

(b) The department shall review the justification for the exemption at the end of the 5 year period. This review shall be based on an analysis of the water use reports and annual reports on effectiveness of implementation of the water conservation plan submitted to the department by the water user. As a result of the review, the department shall:

(1) Renew the exemption for an additional five years if the review shows that implementation of the water conservation plan has been effective in reducing water use by at least as much as the reductions that would have been required under Env-C 722.02 (b) and/or (c), respectively; or

(2) Not renew the exemption if the review shows that implementation of the water conservation plan has not been effective in reducing water use by at least as much as the reductions that would have been required under Env-C 722.02 (b) and/or (c), respectively.

(c) If the exemption is not renewed, the water user shall be subject to reduction orders issued pursuant to Env-C 722.02 until such time as the water user can demonstrate effectiveness of implementation of a water conservation program for at least 2 years, at which time the water user may again request an exemption from the reduction orders in accordance with this section.

PART Env-C 723 PROCESS FOR TRIGGER FLOW DETERMINATION

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**723 – seasonal trigger flows**	UMRLA #2w A

20-Jul-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: The UMRLAC supports the use of seasonal trigger flows to parallel natural flows. It is essential for healthy river systems to maintain natural flow variances. The trigger levels further assure this point.

Response: DES concurs and believes the draft rule reflects this.

Env-C 723.01 Schedule for Establishing Trigger Flows.

(a) For any designated river as of the effective date of these rules, the department shall issue notice of a hearing in accordance with Env-Ws 723.05 concerning the trigger flows and required minimum releases proposed pursuant to this part within 180 days of the effective date of these rules.

(b) For any river or river segment that is designated pursuant to RSA 483 after the effective date of these rules, the department shall provide notice in accordance with Env-Ws 723.05 concerning the trigger flows and required minimum releases proposed pursuant to this part within 180 days of the effective date of the designation.

Env-C 723.02 Seasonal Trigger Flows.

(a) In recognition that there is a seasonal variation in flows within the state, as well as a variation within those seasons from north to south, phase I, phase II, phase III trigger flows shall be based on seasons identified as follows:

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**723.02 and 722.02 (b)-(d) difficulty from seasonal and trigger flows**	MRWC #13w D
16-Aug-00	**cwi**		**jmm**		

Comment: Based on our discussions with some of the water users, as the rules are currently structured, there are two aspects of the rules that will likely be perceived by many as unrealistic and cause them to become opponents of the rules. . . . The second difficulty for users is the variations of water availability depending upon the season, and alert phase. One could need to plan up to 12 operational scenarios depending upon the situation.

Response: Due to the seasonal approach in the rules, only three trigger flows will be in use at any give point in time. Users can identify and develop alternate water supplies to minimize the need for multiple operational scenarios.

(1) Summer shall comprise June, July, August, September, and October;

(2) Autumn shall comprise November and December;

(3) Winter/northern shall comprise January, February and March;

(4) Winter/southern shall comprise January and February;

(5) Spring/northern shall comprise April and May; and

(6) Spring/southern shall comprise March, April and May.

(b) The department has designated a river or river segment as "northern" if the spring runoff event typically begins in April and as "southern" if the spring runoff event typically begins in March, as identified in document # NHDES-COM-MAP-XX.

Env-C 723.03 Trigger Flow Determinations.

(a) Trigger flows shall be determined for designated rivers using the watersheds identified in document # NHDES-COM-MAP-1.

(b) Trigger flows shall be established for each watershed through which the designated river flows at the point of lowest altitude in the watershed.

(c) The required minimum release(s) shall be established for each hydroelectric energy facility on a designated river.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**723.03 (c) - need clarification of hydroelectric trigger flows**	CRWC #11w D
16-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: It is unclear if the trigger flows to be established in this section for hydroelectric facilities are those that exist now under NH rule, those that are set by FERC or if these would be new standards for hydro facilities. This section also seems to contradict Env-C 720.02 (c), which states that hydro facilities are not consumptive users of the waters of the state and thereby exempt from these rules. CRWC would prefer the arrangement under this section that would have a flow level set for all hydro facilities.

Response: This is covered under Env-C 723.04(a)(4) which states: "The proposed required minimum release(s) from a hydroelectric energy facility shall be determined by applying the Interim Regional Policy for New England Stream Flow Recommendations, U.S. Fish and Wildlife Service, February 13, 1981."

Env-C 723.04 Proposed Trigger Flows and Required Minimum Releases.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**723.03 - .07 – Deadlines needed**	NHRC #9w G
15-Aug-00	**cwi**	**26-Sep-00**	**pmc**		

Comment: As currently drafted, the rules contain no deadline for establishing specific trigger and protected flows. The rules require commencement of flow determination within a specified time and limit the amount of time after the public comment period for DES to establish flows, but they allow an unlimited timeline for developing recommended flows and for the public comment period
itself (see Env-C 723.03-07). Given the potential for conflict at this stage, this open-ended framework is likely to lead to even more delays in adoption of flow protection. It quite possibly could stall flow establishment indefinitely. Similarly, the process is unnecessarily long and drawn out.

The rules should incorporate deadlines and procedures to speed up the flow establishment process. We would like to see DES establish river specific flows and hold public hearings on each of the protected rivers in the program in the order in which they were designated, addressing one river or segment per month and beginning within 90 days of the effective date of the rules or within 90 days of designation, whichever is later. In no event should flow establishment for any river or segment take more than six months, including the public comment period, and DES should be required (as under the current rules) to establish the flows within 60 days of the close of the public comment period. The goal of such a change would be to ensure specific flow protections are in place within a reasonable and finite amount of time.

Response: DES is hesitant to impose deadlines on itself for establishing protected flows, as this activity depends strongly on DES staffing levels which are in turn dependent on uncertain legislative or grant funding.

(a) The commissioner has determined, subject to additional information received during public comment, that the following proposed trigger flows and required minimum releases are sufficient to maintain water for instream public uses and to protect the resources for which the river or segment is designated:

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**723.04 (a) rule simplification**	NHRC #9w D
15-Aug-00	**cwi**	**26-Sep-00**	**cwi**		

Comment: The proposed flow rules are complex and would be difficult to implement and enforce even under ideal circumstances. With a history of tight budgets that do not expand to match the growth of the program, it is unclear how DES would be able to implement and enforce the current draft rules. Yet without implementation and enforcement the rules would be meaningless.

Assuming that RMPP budgets will not increase to the extent that the current rules draft would require, it is clear that the rules must be simplified. In her report to the Connecticut River Joint Commissions, Kathy Fallon Lambert suggested eliminating one trigger flow such that there would be a conservation trigger, a restricted use trigger, and a protected flow. This change would reduce the number of regulatory flows that would need to be determined and implemented by 25%. Reducing the number of trigger flows might also make it easier to incorporate stronger triggers. This and other approaches to simplification need to be considered.

Response: Reducing the number of trigger flows would simplify the management of the rules. However, reducing the number of trigger flows to meet personnel demands is not an appropriate method for managing instream flows. The draft rules currently use three trigger flows requiring reduction or cessation of withdrawal. Each trigger level represents a varying level of concern/impacts to habitat.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**723.04 (a) Alternate Phase reduction method**	MRWC #13w F
16-Aug-00	**cwi**				

Comment: The second method of implementation is a significant departure from the current structure of the rules. We realize that it is late in the process to consider such a change but it offers some insights that may be worth thinking about. Under this scenario the calculation for the availability of water would be done as follows.

Phase I reductions - The phase I baseline water available to each user is Wnx (consumptive use under normal conditions) * (times) .90 (90%) Additional water beyond the baseline amount is available to each user up to their Wnx for a emergency water management fee of $.005 per gallon.

Phase II reductions - The phase II baseline water available to each user is Wnx (consumptive use under normal conditions) * (times) .75 (75%) Additional water beyond the baseline amount is available to each user up to their Wnx for a emergency water management fee of $.007 per gallon.

Phase III reductions - The phase III baseline water available to each user is Wnx (consumptive use under normal conditions) * (times) .60 (60%). Additional water beyond the baseline amount is available to each user up to their Wnx for a emergency water management fee of $.009 per gallon.

There are three views from which to evaluate the above suggestion, from the view of the water user, the view of the fish and the view of the regulating body. For this discussion we will look at the first two views.

From the view of the fish the current rules buy some time to pull out of the drought situation and may prevent ecological damage. However, nature is the overriding force and though severally limiting man's use will increase the odds to prevent damage, it does not ensure that the rivers will escape damage.

The reduction structure suggested above is structured to reduce the major barrier to acceptance with the current rules. That is, shutdown of operations. In this scenario compliance to phase one restrictions should be achievable with simple water conservation practices without affecting core operations. Compliance with phase two and three reductions will require one or more of the following actions: extensive conservation practices, limitations of core operations or increase operational costs to increase allotment of water.

The concepts of cutting use and paying more for a resource during shortages are embedded in economic thinking of corporate America. Presumably any conservation measures instituted during the first drought that result in cost savings to users will be continued permanently. Inefficient water users that find it necessary to pay for emergency allotments will have economic pressures to become more efficient. In addition users will only need to devise three operational scenarios to comply with the rules.

From the view of the fish these changes my result in a better or worse scenario than the current rules depending upon the season, the particular watershed, and the cumulative user of f all users. The other changes suggested earlier of watershed wide application of the rules, and application to all user's of 10,000 gallons or greater, are improvements from the fish's view. These changes do not provide any means to discourage new users from moving into an over-stressed watershed. As the rules are considered a starting point that would need to be addressed in the future either within the rules, though local regulations or via a more comprehensive statewide water resource policy.

As an offshoot of the above suggestions other simplifications of the rules are possible since water is available above baseline available amounts for all users up to their normal use allotments for a water emergency management fee.

Response: This method is not currently under consideration. Continued use of water during a period when flows are minimal and limited only by ability to pay are not effective in management of the resource.

(1) The proposed phase I flow shall be the seasonal Q60.

Date of Entry	Date of Response	Rule Reference	Source of Comment

Date	initials	date	initials	**723.04 (a)(1) Q60 not protective**	CRJC #17w H
24-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: The concept of trigger flows with decreasing. usage of the remaining flow makes a lot of sense but we have real concerns about the rational for the choice of Q60, etc. This seems to be lower than the US Fish & Wildlife Service standard, and thus less protective of instream uses and values. Do you have data that suggest that US F&WS is overstating the need for flow protection? If not, we recommend following the US F&WS standard

Response: It is true in some seasons on certain rivers the Q60 trigger flow is lower than the USFWS ABF standard. However, the reverse is also true. The Q60 was selected as the Phase I trigger flow on the basis of its close correlation to the ABF standard for most rivers during most seasons.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**723.04 (a)(1) Q60 too protective, too common**	NHDA #19w C
25-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: The values of when water use restrictions begin are very conservative. Consequently, these restrictions will be implemented frequently and water users will have to change their actions often and at times when there are no perceived problems. This has the potential of becoming the boy who cried wolf It would be wise to view rivers and streams at Q 60 and see for yourselves if this is a low flow condition which warrants conservation.

Response: DES has retained the services of a consultant to help evaluate the frequency and duration of orders. The trigger flows will be reevaluated taking into consideration the results of the frequency/duration analysis as well as all available information about the relationship of the trigger flows to aquatic life and habitat protection.

(2) The proposed phase II flow shall be the seasonal Q80.

(3) The proposed phase III flow shall be the seasonal Q90.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**723.04(a) (1-3) difficult to administer**	CRJC #17w I
24-Aug-00	**cwi**	**13-Sep-00**	**cwi**		

Comment: It would seem that the large number of trigger values for each pour point will make the administration of the rules more difficult.

Response: Currently there are proposed three trigger levels adjusted for each of four seasons. Three trigger levels are necessary to be responsive to habitat needs while reducing abrupt changes in usage. Seasonal adjustments are necessary to accommodate natural variations in flow. Automation would facilitate assessment of the daily data.

(4) The proposed required minimum release(s) from a hydroelectric energy facility shall be determined by applying the Interim Regional Policy for New England Stream Flow Recommendations, U.S. Fish and Wildlife Service, February 13, 1981.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**723.04(a)1-4 – trigger flow values**	NHRC #9w B
27-Jul-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: Flow levels as proposed are not likely to adequately protect the characteristics for which the rivers were designated.

Our primary concern for the rules is protection of the rivers themselves; minimum instream flows should protect the ecological characteristics of rivers. While we support the basic approach of the rules, we are concerned that the current trigger and protected flows do not adequately do that. The science of what constitutes adequate minimum flows is admittedly limited, a fact that suggests a conservative approach to protecting flows.

In the absence of better science, and in the face of uncertainty, we believe the flow protections of the rules should be stronger than they currently are. A quick examination of DES data on several RMPP rivers suggests that summertime trigger flows are generally well below Aquatic Base Flow (ABF), and flows at other times of the year are also below the USFWS recommended spawning and incubation flows. We recognize that the science behind ABF is limited, but it remains the only policy based science regarding the ecology of flow protection.

Strengthening the regulatory flow levels is also crucial given the fact that those levels are only the starting point for establishing specific flows for each river. Actual flows are likely to face continued downward pressure during the establishment phase. Kathy Fallon Lambert compared flow protection strategies in her recent report to the Connecticut River Joint Commissions (CRJC) and provided a good starting point for considering appropriate flows under the flow duration approach of the current draft. More discussion on specific flow levels is needed.

Response: The trigger flows were initially selected on the basis of their correlation to other standard setting approaches including the USFWS' ABF values. Subsequent evaluation of the trigger flows by DES and its consultants generally supports these triggers as being adequately protective of aquatic life and habitat.

(b) The methodology used to determine a proposed trigger flow shall be the same whether a river is designated as community, rural-community, rural or natural.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**723.04 (b) – availability of data to establish triggers**	CRJC #17w K
24-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: We would be interested in the data that will be used to establish Q for pour points that have no gauge. How will the regulator know when the trigger points are reached? How will the users be monitored? These questions need addressing before the rules are adopted.

Response: Most, if not all, pour points have no gage. Trigger flows will be established for each pour point using data from proximal stream gages. For more information about the methodology for doing so see: http://www.des.state.nh.us/rivers/instream/pourpt/

(c) The proposed trigger flows and required minimum releases shall be set forth in writing and shall be made available pursuant to Env-C 723.05 for public comment.

Env-C 723.05 Hearing and Opportunity for Public Comment.

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**723.05 – review process too slow, and will resources be committed?**	CRWC #11w E
16-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: A general comment would be that we are talking about emergency water flow levels and assigning a priority use schedule that will protect the in-stream life. The process set out in this section takes a minimum of 120 days from first notice until the Commissioner must publish his/her decision. This schedule does not seem to be a timely if the intent of the rule is to protect the in-stream life of the river in question in a situation where the flows have already gotten close to or below the environmentally healthy level of flows set out in Env-C 722.02. In order to protect the stream life the Commissioner should start immediately to begin the hearing process on all of the designated rivers as soon as these rules are adopted by NHDES. There will need to be a commitment of time and resources to accomplish this timely publishing of decisions. The question then becomes will NHDES commit the necessary resources to complete these reviews of the designated rivers before emergency powers are triggered and exemption decisions need to be made by the Commissioner.

Response: The time frame set forth in this section applies only to the initial establishment of the protected flows. DES believes that it is reasonable.

(a) For each designated river or segment, the department, in cooperation with the LRMAC, shall hold a public hearing in a community along the designated river to receive comment on the following factors as they pertain to the proposed trigger flows and required minimum releases:

(1) All factors identified in RSA 483, including considerations identified in RSA 483:1, RSA 483:6, IV(a), and RSA 483:9-c;

(2) Flows established pursuant to existing federal licensing processes or state contracts;

(3) Whether there are wastewater discharges that require a certain instream flow for permit compliance and/or maintaining water quality standards; and

(4) Whether the river contains flow-regulating structures such as dams, and if so, how such structures are used to manage flow; and

(5) All available information relevant to determining what flows are likely to stress existing aquatic life and/or habitat beyond the ability of the natural system to adjust to changing flows without permanent adverse impacts.

(6) Stream gaging data and watershed characteristics.

(b) At least 30 days before the hearing, the department shall issue a notice of the hearing in a newspaper of local circulation.

(c) At least 30 days before the hearing, the department shall send written notice of the public hearing to and solicit comment from the following:

Date of Entry		Date of Response		Rule Reference	Source of Comment
Date	initials	date	initials	**723.05 (c) – wider notification suggested**	CRWC #11w F
16-Aug-00	**cwi**	**26-Sep-00**	**jmm**		

Comment: This section enumerates the persons/organizations to be notified of a hearing on establishing a trigger flow. Although this list is extensive it does not include any notice to non-governmental organizations that might have an interest in the trigger flow to be established in the process. Examples of organizations that would not be notified could be local chapters of Trout Unlimited, the CRWC NH state council and other local chapters of outdoor recreational users of the river all of which likely would have an interest in the trigger flow. Some suggested ways to address this would be to place an add/notice in a newspaper of general circulation in the area and to take advantage of the organizational data in NHDES on river interested groups.

Response: This is covered under section Env-C 723.05(b).

(1) Affected water users in the watershed;

(2) Federal energy regulatory commission, for each designated river with a licensed hydropower site;

(3) LRMAC members for the designated river;

(4) The governing body of each municipality through or past which the designated river flows;

(5) National park service;

(6) New Hampshire department of justice;

(7) New Hampshire department of transportation;

(8) Public utilities commission;

(9) RMAC members;

(10) The governor of any state which shares a designated river;

(11) U.S. environmental protection agency;

(12) U.S. fish and wildlife service;

(13) U.S. forest service, for each designated river inside the white mountain national forest; and

(14) U.S. geological survey.

(d) At the public hearing, the department shall specify a comment period which shall close at least 30 days after the hearing date, during which time the department will receive written comments on the factors listed in Env-C 723.05 (a) as they pertain to the proposed trigger flows and required minimum releases.

Env-C 723.06 Establishment of Trigger Flows.

(a) Subject to (d) below, within 60 days of the close of the public comment period, the commissioner shall consider all of the comments and information received during the public comment period, and shall issue a decision establishing the trigger flows and required minimum releases for the designated river.

(b) The commissioner's decision shall:

(1) Be in writing;

(2) State the basis for the established flow(s);

(3) Include the assessment required by RSA 483:9-c, III; and

(4) Include a summary of comments received and an explanation of how the comments affected the established flows.

(c) The department shall publicize the decision by sending written notice to:

(1) All persons identified in Env-C 723.05(b); and

(2) Any person who submitted written comments on the proposed flows and who specifically requested to directly receive a copy of the notice of the established flows.

Env-C 723.07 Change to a Trigger Flow or Required Minimum Release.

(a) A person aggrieved by a decision of the commissioner made pursuant to Env-C 723.06 or a person who wishes to request a change in a trigger flow or required minimum release changed may file a petition to the commissioner for reconsideration of the decision.

(b) If the petition is filed within 30 days of the date the decision is issued, the implementation of the decision will be stayed until the commissioner has acted on the petition, in accordance with RSA 483:9-c, VI.

(c) The petition shall be in writing and shall include the following:

(1) The name, address and daytime telephone number of the person requesting the reconsideration and, if the requestor is other than an individual, the name of an individual who can be contacted on behalf of the organization requesting the reconsideration;

(2) The specific change being sought in a trigger flow or required minimum release, either in the quantity of flow, or in the method of determining the flow.

(3) An explanation of how the flow that the commissioner established will adversely affect one or more of the resources for which a particular river or segment was designated by the general court under RSA 483, in addition to the factors identified in RSA 483:1, RSA 483:6, IV(a), and RSA 483:9-c, together with supporting evidence and data; and

(4) If applicable, the specific error(s) committed by the commissioner in evaluating the factors identified pursuant to (2) and (3) above.

(5) All data not available or considered at the time the protected instream flow was set.

(d) Within 30 days of receiving the request, the commissioner shall decide whether to:

(1) Deny the request and affirm the established trigger flow or required minimum release; or

(2) Grant the request and reconsider the trigger flow or required minimum release.

(e) If the commissioner believes that an oral hearing would facilitate making a decision, the commissioner shall schedule an adjudicatory hearing and shall notify the petitioner of the date, time and place of the hearing. Any hearing so scheduled shall be conducted in accordance with RSA 541-A and Env-C 200.

(f) If the commissioner denies the request, the commissioner shall notify the petitioner in writing of the denial and shall specifically identify the reason(s) for the denial.

(g) If the commissioner grants the request, the commissioner shall notify the petitioner in writing that the established trigger flow or required minimum release will be reconsidered and shall initiate action to receive comment on the proposed new trigger flow or required minimum release by the process described in Env-C 723.05.

(h) As specified in RSA 483:9-c, VI, the commissioner's decision on the request may be appealed in accordance with RSA 541.

(i) The commissioner shall initiate action to change a trigger flow or required minimum release by the process described in Env-C 723.05 in response to changed conditions in the watershed that warrant re-evaluation of the flows.